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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,216	01/11/2002	Hideya Kinoshita	1417.1002 CIP	6978

21171 7590 12/18/2002

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WASHINGTON, DC 20001

EXAMINER

SERGEANT, RABON A

ART UNIT	PAPER NUMBER
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1711

5

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/042,216

Applicant(s)  
Kinoshita et al.

Examiner  
Rabon Sergeant

Art Unit  
1711



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 09/267,673.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other: \_\_\_\_\_

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1. The disclosure is objected to because of the following informalities:

Firstly, Example 7 within the table on page 8 has no entry for the polyol component.

Secondly, the chemical name set forth for antioxidant AO80 is incorrect. The correct name is 3,9-bis[1,1-dimethyl-2-[3-(3-tert-butyl-4-hydroxy-5-methylphenyl)propionyloxy]ethyl]-2,4,8,10-tetraoxaspiro[5.5]undecane.

Appropriate correction is required.

2. Copies of the CAS Registry printouts for the two specifically claimed antioxidants have been attached to this Office action. It is noted that antioxidant AO75 is also known as Irganox 1035.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claimed amount of foam stabilizer within claim 2 lacks antecedence from the specification; the lower endpoint of the range does not match the value set forth within the specification.

4. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Firstly, within claim 1 and 5, the name of the claimed antioxidant is incorrect. The name should be 3,9-bis[1,1-dimethyl-2-[3-(3-tert-butyl-4-hydroxy-5-methylphenyl)propionyloxy]ethyl]-2,4,8,10-tetraoxaspiro[5.5]undecane.

Secondly, within claim 1, the two antioxidant species should be referred to in the alternative.

Lastly, it is unclear what amount of dibutyl cresol may be present and still satisfy the “substantially free” language. It is unclear how “substantially” further modifies “free”.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over St. Clair et al. ('781) in view of Ishii et al. ('744) or Duffy et al. ('602).

St. Clair et al. disclose flexible polyurethane foam derived from the reaction of polyisocyanate with polyol, which meets applicants' claimed polyol, in the presence of foaming agent, catalyst, surfactant, and an antioxidant/stabilizer blend comprising relatively high molecular weight hindered phenolic compounds, phosphite ester secondary antioxidant, and benzotriazole UV absorbing agent. See abstract and columns 3-5.

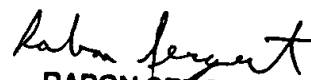
7. Though St. Clair et al. disclose the use of relatively high molecular weight hindered phenol antioxidants, patentees fail to disclose the use of applicants' specifically claimed hindered phenol antioxidants. However, applicants' claimed hindered phenol antioxidants were known antioxidants for polyurethanes at the time of invention. Ishii et al. disclose the use of 3,9-bis[1,1-dimethyl-2-[3-(3-tert-butyl-4-hydroxy-5-methylphenyl)propionyloxy]ethyl]-2,4,8,10-tetraoxaspiro[5.5]undecane as an antioxidant for polyurethanes, and Duffy et al. disclose the use of 2,2'-thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] (Irganox 1035) as an antioxidant for use within polyurethanes. Duffy et al. further specifically teach the advantages of using Irganox 1035 and similar antioxidants as a replacement for the BHT. See columns 2 and 3.

8. Therefore, since it has been held that it is *prima facie* obvious to utilize a known component for its art recognized purpose (*In re Linder*, 173 USPQ 356; *In re Dial et al.*, 140 USPQ 244), the position is taken that it would have been obvious to incorporate the antioxidants

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of the secondary references into the composition of St. Clair et al., so as to arrive at the instant invention.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (703) 308-2982.

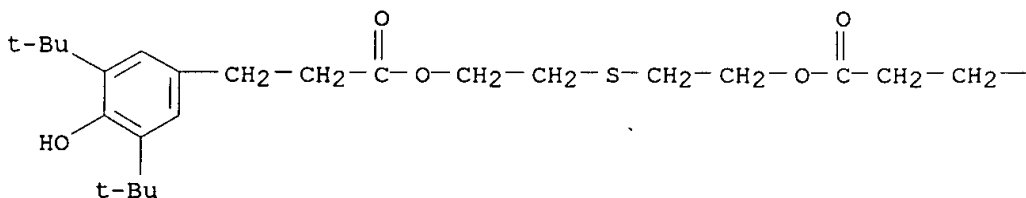
  
RABON SERGENT  
PRIMARY EXAMINER

R. Sergent

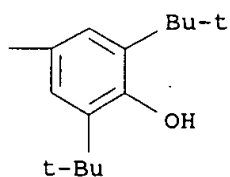
December 15, 2002

L8 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS  
 RN 41484-35-9 REGISTRY  
 CN Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-,  
 thiodi-2,1-ethanediyl ester (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 2,2'-Thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]  
 CN 2,2'-Thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyhydrocinnamate)]  
 CN 2-(3,5-Di-tert-butyl-4-hydroxyphenyl)propionic acid 2,2'-thiobisethanol  
 diester  
 CN 3-Thia-1,5-pentanediol bis[3-(3,5-di-tert-butyl-4-  
 hydroxyphenyl)propionate]  
 CN AO 75  
 CN Bis[(3,5-di-tert-butyl-4-hydroxyphenyl)propionyl-2-oxyethyl] sulfide  
 CN Bis[2-[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionyloxy]ethyl] sulfide  
 CN Fenozan 30  
 CN Irganox 1035  
 CN Irganox 1035FF  
 CN Irganox L 1035  
 CN Naugard EL 50  
 CN Thiodi(2,1-ethanediyl) bis[3-(3,5-di-tert-butyl-4-  
 hydroxyphenyl)propionate]  
 CN Thiodiethylene bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamate)  
 CN Thiodiethylene glycol  
 bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]  
 FS 3D CONCORD  
 DR 53789-56-3, 62132-55-2, 75915-28-5  
 MF C38 H58 O6 S  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, CA, CAPLUS,  
 CASREACT, CHEMCATS, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, MSDS-OHS,  
 PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

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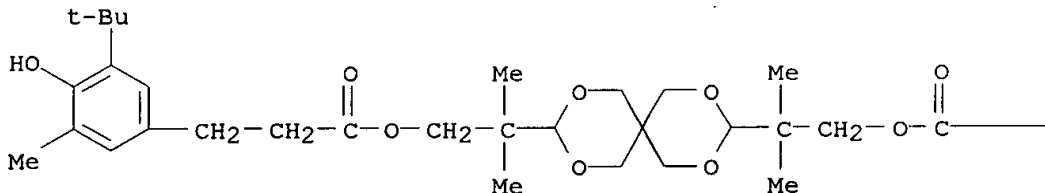


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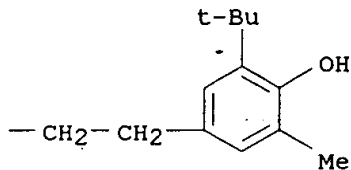


L7 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS  
 RN 90498-90-1 REGISTRY  
 CN Benzenepropanoic acid, 3-(1,1-dimethylethyl)-4-hydroxy-5-methyl-,  
 2,4,8,10-tetraoxaspiro[5.5]undecane-3,9-diylbis(2,2-dimethyl-2,1-  
 ethanediyl) ester (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 2,4,8,10-Tetraoxaspiro[5.5]undecane, benzenepropanoic acid deriv.  
 OTHER NAMES:  
 CN 3,9-Bis[1,1-dimethyl-2-[(3-tert-butyl-4-hydroxy-5-  
 methylphenyl)propionyloxy]ethyl]-2,4,8,10-tetraoxaspiro[5.5]undecane  
 CN 3,9-Bis[1,1-dimethyl-2-[3-(3-tert-butyl-4-hydroxy-5-  
 methylphenyl)propionyloxy]ethyl]-2,4,8,10-tetraoxaspiro[5.5]undecane  
 CN **ADK Stab AO 80**  
 CN **AO 80**  
 CN LX 802  
 CN **Mark AO 80**  
 CN Sumilizer AG 80  
 CN Sumilizer GA  
 CN Sumilizer GA 80  
 FS 3D CONCORD  
 DR 127337-89-7, 124673-78-5, 130203-95-1, 133304-19-5, 149845-26-1,  
 273937-42-1  
 MF C43 H64 O10  
 LC STN Files: CA, CAPLUS, CASREACT, CHEMLIST, CIN, PROMT, TOXCENTER,  
 USPAT2, USPATFULL  
 Other Sources: NDSL\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

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\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

401 REFERENCES IN FILE CA (1962 TO DATE)  
 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 402 REFERENCES IN FILE CAPLUS (1962 TO DATE)